



02-10-05

IFW

Customer Number 23446  
Docket No. 15-DS-00523DIV2-2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of: )  
Torp, et al. )  
Serial No.: 10/705,190 ) **EXPRESS MAIL NO: EV 436264359 US**  
Filed: November 10, 2003 )  
For: Method and Apparatus for ) **DATE: February 9, 2005**  
Providing Real-Time Calculation and )  
Display of Tissue Deformation in )  
Ultrasound Imaging )  
Examiner: Unassigned )  
Group Art Unit: 3737 )  
Confirmation No.: 5571 )

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 C.F.R. § 1.56, it is respectfully requested that the following reference(s) be considered in the examination of the above-identified patent application:

Patent/Publication No.	Issued/Published	Inventor/Country
4,534,357	08/13/85	Powers
4,780,837	10/25/88	Namekawa
5,046,500	09/10/91	Fehr

5,083,566	01/28/92	Tatsuro
5,109,856	05/05/92	Mangotte
5,183,047	02/02/93	Burckhardt
5,241,473	08/31/93	Ishihara, et al.
5,457,754	10/10/95	Han, et al.
5,501,223	03/26/96	Washburn, et al.
5,615,680	04/01/97	Sano, et al.
5,876,341	03/02/99	Mao, et al.
5,524,636	06/11/96	Sarvazyan
EP 0509 760	10/21/92	EP
WO 99/17660	04/15/99	PCT
EP 0931 508	07/28/99	EP

BRANDS P J ET AL., "A noninvasive method to estimate pulse wave velocity in arteries locally by means of ultrasound," *Ultrasound In Medicine and Biology, New York, NY, US* 24(9):1325-1335 (December 1998)

BRODIN L-A ET AL., "New functional imaging options with echocardiography based on myocardial velocity curves," *Computers in Cardiology 1998* Cleveland, OH, USA 13-16 Sept. 1998, New York, NY, USA, IEEE, US (13 September 1998) page 253-256

BRODIN L-A ET. AL., "Echocardiographic Functional Images Based on Tissue Velocity Information," *Herz, Urban Und Vogel, Muenchen, De.* 23(8):491-498 (8 December 1998)

FLACHSKAMPF FRANK, ET AL., "Stress-Echokardiographie, Versuch einer Standortbestimmung" 94(9):A-523-A-528 (28 February 1997)

HEIMDAL A. ET AL., "Real-time strain rate imaging of the left ventricle by ultrasound,"

*J. Am. Soc. Echocardiography, 11(11):1013-1019 (November 1998)*

HEIN I.A., O'BRIEN D., "Current time-domain methods for assessing tissue motion by analysis from reflected ultrasound echoes – a review" *IEEE Transactions on Ultrasonics and Frequency Control* 40(2):84-102 (March 1993)

LEE S H ET AL., "Temporal analysis of regional synthetic M-mode to identify abnormal stress echocardiographic studies," *Computers in Cardiology* 1998 Cleveland, OH, USA 13-16 Sept. 1998, New York, NY USA, IEEE, US (13 September 1998), pages 241-244

NITZPON H J ET AL., "A New Pulsed Wave Doppler Ultrasound System to Measure Blood Velocities Beyond the Nyquist Limit," *IEEE Transactions on Ultrasonics, Ferroelectrics and Frequency Control*, IEEE Inc. New York, NY US 42(2):1265-279 (1 March 1995)

NIXDORF UWE, ET AL., "Klinischer Stellenwert der Stressechokardiographie," *Deutsches Arzteblatt*, 94(25):A1723-A1728 (20 June 1997)

PESAVENTO A ET AL., "Time-efficient and exact algorithms for adaptive temporal stretching and 2D-correlation for elastographic imaging using phase information," *Ultrasonics Symposium 1998. Proceedings.*, 1998 IEEE Sendai, Japan 5-8 Oct. 1998, Piscataway, NH, USA, IEEE, US (5 October 1998), pages 1765-1768

R. ALBIERO, A. VARIOLA, B. DANDER AND C. BUONANNO, "DIGITAL Stress-Echocardiography Using a Public Domain Program for the Macintosh Personal Computer," *Computers and biomedical Research*, 28:433-442 (December 1995)

SHIMUZU, UEMATUS, NAKAMURA, MIYATAKE, "Peak Negative Myocardial Velocity Gradient in Early Diastole as a Noninvasive Indicator of Left Ventricular Dialstolic

Function" *Journal of the American College of Cardiology*, 32(5):1418-1425 (1 November 1998)

STALIDIS G ET AL., "Detection and modeling of infarcted myocardium regions in MRI images using a contour deformable model" *Computers in Cardiology* 1995, Vienna, Austria 10-13 Sept. 1995 New York, NY, USA, IEEE, US (10 September 1996), Pages 17-20

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URHEIM S, TORP H; EDVARDSEN T; OLSTAD B; RABBEN S I; HEIMDAL A; ANGELSEN B; SMISETH O A. "Myocardial strain rate imaging: Validation of a new Doppler method to quantify regional myocardial function" *Journal of the American College of Cardiology*, 33(2) Suppl. A., (February 1999) page 428A

The above-identified reference(s) are listed on the attached PTO Form 1449 and copies (except US) are also enclosed herewith. Also enclosed are European Search Report and a Partial European Search Report.

This submission, is in no way intended as an admission that the above-cited references constitute prior art under any subsection of 35 U.S.C. § 102. Applicant expressly retains the right to take any actions necessary to remove the above-cited references from the available prior art.

Consideration of the above-identified references in the examination of the present patent application is respectfully requested.

No fee is believed to be due because it is believed that this statement and enclosures are being filed before the first Office Action on the merits has been mailed by the PTO. The basis of this belief is that no Office Action on the merits appears to have been received by the undersigned to date. Please charge any fees due in connection with this statement to the deposit account of GTC, Account No. 070845.

Respectfully submitted,



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Form PTO-1449 (Rev. 8-83) (modified)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 15-DS-000523 DIV2-2	SERIAL NO. 10/705,190
<b>INFORMATION DISCLOSURE CITATION</b> <small>SEARCHED &amp; SERIALIZED</small> <small>REMAILED sheets if necessary)</small>		APPLICANT(s): Torp, et al.			
		FILING DATE 11/10/2003		GROUP ART UNIT: 3737	

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4,534,357	08/13/85	Powers			
	4,780,837	10/25/88	Namekawa			
	5,046,500	09/10/91	Fehr			
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**FOREIGN PATENT DOCUMENTS**

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						YES	NO
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**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

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